carriers, while male participants with a met/met allele showed greater deactivations compared to val/val carriers. There was no main effect of the COMT polymorphism, gender or genotype by gender interaction on task performance. We propose that the observed effects of gender and COMT allele on brain activations arise from differences in dopamine levels in these groups and that the gender differences and gender genotype interaction may be due to the downregulation of COMT by estrogen.

P0369

Increase of prefrontal cortex blood flow during the performance of the computer version trail making test – the second report

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We have reported a blood flow increase in the prefrontal cortex during the performance of the computer version TMT. Although TMT-A was first performed and followed by TMT-B in the previous study, the order was reversed in the present study,i.e., TMT-B was first performed and then followed by TMT-A, and differences in the change of blood flow were compared between the two modes of TMT.

Nine healthy student volunteers (20.7 ± 1.6 yr) performed two different sets of TMT-B. After a resting period of 30 sec, they performed four different sets of TMT-A. Changes of oxyHb and deoxyHb were monitored by 22-channel NIRS from 30 sec before the start of TMT-B through 30 sec after the end of TMT-A. The mean changes of blood flow over a period of 10 sec just before the start of TMT-B and TMT-A, and over a period of 100 sec after the start of TMT-B and TMT-A were determined.

The increase of oxyHb was prominent in the right lateral prefrontal cortex.

The results suggest that the blood flow increases in the prefrontal cortex during the start of either TMT-A or TMT-B. The location of blood flow increase did not change whether TMT-B was performed first or after TMT-A. Therefore, the blood flow increase observed only in the right prefrontal cortex in the previous study could not be due to familiarization of the test. In contrast, TMT-A apparently exhibits a familiarization effect, since blood flow increase was not observed when TMT-A was performed after TMT-B.

P0370

Increase of prefrontal cortex blood flow during the performance of the computer version trail making test – the first report

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We measured concentration changes of oxyHb and deoxyHb in the prefrontal cortex during the performance of the computer version Trail Making Test(TMT) by multichannel NIRS using near infrared light pairs which are more sensitive for detecting changes of oxyHb and deoxyHb.

Sixteen healthy student volunteers performed four different TMT-A sets, and following 30 a sec resting period, two different TMT-B sets. Changes of oxyHb and deoxyHb were monitored by 22 channel NIRS from 30 sec before the start of TMT-A through 30 sec after the end of TMT-B. The mean changes in subjects over a period of 10 sec just before the start of TMT-A and TMT-B, and a period of 50 to 60 sec after the start of TMT-A and TMT-B were determined. OxyHb increased while deoxyHb decreased in the bilateral prefrontal cortices during the performance of TMT. The increase of oxyHb was prominent in the right lateral prefrontal cortex, especially during TMT-A.

On the other hand, deoxyHb significantly decreased in the bilateral prefrontal cortices especially during TMT-A.

The results suggest that blood flow increases in the prefrontal cortex during the performance of the computer version TMT.

P0371

Functional imaging of neural responses to emotional interference before and after cognitive behavioural therapy in major depression

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Background: The present functional magnetic resonance imaging (fMRI) study investigated neural changes in relation to mood biased processing in depression, before and after cognitive behavioral therapy (CBT) using an emotional Stroop task.

Methods: Sixteen unmedicated patients (mean age 40 years), fulfilling DSM-IV diagnosis for unipolar major depression underwent fMRI, prior to and after 16 once-weekly sessions of CBT. Sixteen matched healthy volunteers were scanned at similar time intervals. In an emotional Stroop task negative and neutral words were presented in various colors and volunteers had to name the color of words. Latencies were recorded to determine behavioral emotional interference effects. MRI images were acquired using clustered image acquisition. Whole-brain and region of interest analysis examined the neural basis of interference and mood biased processing.

Results: At baseline patients displayed increased latencies during color naming negative words, in comparison to neutral words and in relation to healthy volunteers. After treatment, latencies did not significantly differ between groups. With regard to neural activity, depressed patients showed increased activation at baseline in amygdala, dorsolateral prefrontal cortex (DLPFC), and ventrolateral prefrontal cortex (VLPFC), which normalized after CBT. Additionally, hyperactivation in the rostral anterior cingulate at baseline was positively correlated with symptom reduction after CBT.

Conclusions: Evidence was found for an emotional interference effect during acute states of depression which improved following CBT. The neural basis is associated with increased activity in the amygdala, DLPFC and VLPFC which normalized after treatment. CBT seems to affect behavioral biases and neural circuits involved in processing negative information.

P0372

The effect of repetitive transcranial magnetic stimulation add on serotonin reuptake inhibitors in panic disorder

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